CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

This chapter presents the anticipated impacts (direct, indirect, and cumulative) of each alternative considered in detail on resource categories of the affected environment. The analysis is based on the best available scientific information and where appropriate, non-scientific information is use to discuss the likely impacts of various management approaches.

Table 24: Alternatives Considered in Detail

Issue: Alternative	Description
Issue 1: FEP Boundaries	***Regulatory***
Alternative 1A	No action - do not delineate or implement FEP boundaries
Alternative 1B	Delineate and implement separate FEPs surrounding each archipelago
Alternative 1C (Preferred)	Delineate and implement four separate demersal FEPs surrounding each archipelago as well as a single Pelagic FEP that includes the entire region (Preferred)
Alternative 1D	Delineate and implement separate FEPs for each biogeographic and pelagic zone
Issue 2: List of MUS	***Regulatory***
Alternative 2A	No Action – do not change the current MUS lists
Alternative 2B (Preferred)	Define FEP MUS as those current MUS that are believed to ocurr within each FEP boundary (Preferred)
Alternative 2C	Define FEP MUS as the existing MUS plus incidentally caught and associated species, which are known to occur within each FEP boundary
Alternative 2D	Define FEP MUS as the existing MUS plus incidentally caught and associated species, which are believed to potentially occur within each FEP boundary
Issue 3: Council Advisory Structure	***Non-Regulatory***
Alternative 3A	No Action - do not change the current advisory structure
Alternative 3B	Add a single FEP Plan Team to the current advisory structure
Alternative 3C	Replace the current FMP Plan Teams, Advisory Panels and four Standing Committees with FEP Plan Teams, Advisory Panels and Standing Committees
Alternative 3D (Preferred)	Replace the current FMP Plan Teams, Advisory Panels and four Standing Committees with FEP Advisory Panels, FEP Standing Committees and two FEP Plan Teams (Preferred)
Issue 4: Regional Coordination	***Non-Regulatory***
Alternative 4A	No Action - do not establish Ocean or Ecosystem Councils
Alternative 4B (Preferred)	Establish Regional Ecosystem Council Committees (Preferred)
Alternative 4C	Participate in and support existing Ocean Council type groups
Alternative 4D	Establish independent Regional Ecosystem Councils

Issue 5: International Coordination	***Non-Regulatory***
Alternative 5A	No Action- continue to participate in international management fora
Alternative 5B (Preferred)	Increase participation in international management fora and establish meetings/workshops with neighboring nations
Alternative 5C	Do not participate in international management fora

As discussed in Chapter 2, these alternatives were formulated to represent a reasonable range of alternatives regarding each of the five issues (fishery ecosystem plan borders, management unit species, the Council's advisory structure, regional coordination, and international coordination). In general, each issue's alternatives range from low (no action) to high (implementation of a detailed and specific approach to the issue at hand), and the accompanying analyses allows an examination of the full range of impacts that would be anticipated under the varying approaches.

Because the alternatives considered here focus on establishing an institutional structure for ecosystem approaches to management rather than physical or regulatory changes to fishery operations, none are anticipated to have significant short-term impacts on the environment. However if successful, the long-term impact of transforming to ecosystem management is anticipated to be highly beneficial as it will result in the integration of scientific information and human needs in a manner that significantly increases the involvement of local communities and improves the management and conservation of marine resources.

4.1 Issue 1: Boundaries of fishery ecosystem plans (Regulatory)

4.1.1 Alternative 1A: No Action (status quo) – maintain existing FMPs, do not delineate or implement FEP boundaries

Impacts to the physical environment

Under Alternative 1A, FEP boundaries would not be established, FEPs would not be implemented, and the current FMP boundaries would remain in place as described in Chapter 1. Fishery operations would continue to be adaptively managed under each FMP, destructive gear types would continue to be prohibited through both the existing FMP regulations and NMFS' list of allowable gears, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18.

Impacts to target and non-target species

Under Alternative 1A, the current species specific management approach would be retained (i.e. continue to manage existing management unit species via the Pelagics, Bottomfish, Crustaceans, Precious Corals, and Coral Reef Ecosystems FMPs). Stock status and trends would continue to be evaluated as in the current Report to Congress (i.e. using existing criteria and thresholds for defining "overfishing" and "overfished" conditions as currently applied to individual stocks or stock complexes in Hawaii, American Samoa, Guam and in some cases CNMI and the Pacific Remote Island Areas (PRIA) of Johnston, Wake, Howland, Baker, Jarvis, and Palmyra some of which are part of the Line and Phoenix Islands (CNMI is not currently included in the bottomfish

or crustaceans FMPs, the PRIA are not currently included in the bottomfish, crustaceans or precious corals FMPs. The Council has recommended their inclusion to NMFS, which is currently processing that action for consideration). Based on available scientific information regarding the connectivity of these areas, the Council has informally recommended that the Mariana (Guam and CNMI) bottomfish stock complex be categorized and assessed as a single complex. This recommendation has not been formally evaluated or reviewed by the Council at this time however it is likely to be further considered in the near future. Regardless of the geographic categorization of stocks, issues of local depletion may also be considered for management response as necessary.

Impacts to protected species

Under Alternative 1A, impacts on protected species would remain as described in Chapter 3. Fisheries would continue to be adaptively managed under the existing FMPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes.

Impacts to management, administration and enforcement

This alternative would not have any impacts on management, administration or enforcement, which would continue as described in Chapter 3.

Impacts to fishery participants and communities

This alternative would not have any short-term impacts on fishery participants and communities, which would continue as described in Chapter 3. However, over time the failure to consider the full range of impacts by all fisheries and other activities on marine ecosystems could result in stock depletion, overfishing, habitat damage and the degradation or loss of marine resources on which fishery participants and communities depend.

4.1.2 Alternative 1B: Delineate and implement separate FEPs surrounding each archipelago

Impacts on the physical environment

Under Alternative 1B, contiguous FEP boundaries would be established to enclose each of the region's four archipelagic areas (American Samoa, the Hawaiian Islands and Johnston Atoll, the Marinas Islands, and the remaining Pacific Remote Island Areas of Johnston, Wake, Howland, Baker, Jarvis, and Palmyra some of which are part of the Line and Phoenix Islands) into a separate archipelagic FEPs which encompasses Federal waters from 3-200 miles from shore (with the exception of waters around CNMI and the PRIA which do not have state waters and in which instance the FEP boundaries would encompass Federal waters from 0-200 miles from shore).

The delineation of FEP boundaries does not impact the physical environment of marine ecosystems. The boundaries established under an FEP does not exist as a tangible boundary, but

strictly a geographic representation designated on maps and does not directly involve placing anything structural in the physical environment. In the short-term current regulations would be unchanged, destructive gear types would continue to be prohibited, definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18 and fishery operations would be adaptively managed under each FEP. In the long-term, increased consideration of fishery interactions and non-fishery impacts on the physical environment associated with the successful implementation of ecosystem management would be expected improve our understanding and conservation of the physical environment.

Impacts to target and non-target species

Short-term impacts to target and non-target species would continue as described in Alternative 1A and Chapter 3. That is current regulations would be unchanged and fisheries would be adaptively managed under the relevant FEPs. As in Alternative 1A, all stock status and trends would continue to be evaluated as in the current Report to Congress, with changes to this approach considered as new information becomes available. Also as in Alternative 1A, regardless of the geographic categorization of stocks, issues of local depletion could also be considered for management response as necessary. In the long-term, increased consideration of fishery interactions and non-fishery impacts on target and non-target species would be expected to improve our management of these resources.

Impacts to protected species

In the short-term impacts to protected species would continue as described in Alternative 1A and Chapter 3. That is, current regulations would be unchanged, fisheries would be adaptively managed under the relevant FEPs, and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, increased consideration of fishery interactions and non-fishery impacts on protected species could further reduce existing impacts on them.

Impacts to management, administration and enforcement

Impacts to management and administration under Alternative 1B would be mixed as scientists and managers would need to adapt to the place-based and multi-species nature of the FEPs. Scientists would be asked to increasingly consider fishery interactions within archipelagos, as well as the impacts of non-fishery activities on the marine environment. Management plan teams and other advisory groups would be asked to increasingly consider these indirect and often complex impacts when making recommendations. Outside expertise could be required on a case-by-case or continuing basis to supplement currently available scientists and managers. Enforcement could be simplified as fishery regulations for each FEP would contain all (and only) those regulations applicable to that area as compared to Alternative 1A which requires fishery participants and enforcement officers to check each of the five existing FMPs to discover all of the regulations to which they are potentially subject. Enforcement costs could also be reduced as communities become more involved in fishery management and voluntary compliance is increased.

Impacts to fishery participants and communities

Because the alternatives considered here focus on establishing an institutional structure for ecosystem approaches to management rather than regulatory changes to fishery operations, none are anticipated to have any significant short-term impacts on fishery participants or communities. However if successful, the long-term impact of transforming to ecosystem management is anticipated to be highly beneficial as it will result in the integration of scientific information and human needs in a manner that increases the involvement of local communities in the management and conservation of marine resources. Given that many of the fisheries considered here are located in remote areas, are almost exclusively prosecuted by local residents, and are subject to low enforcement levels, community involvement is crucial to successful fishery management. Not only are communities essential to voluntary compliance, local residents possess the majority of detailed place-based information regarding these resources and their interactions. In combination with the larger scale information held by government agencies, their knowledge provides the foundation for informed ecosystem management. The explicit recognition and increased inclusion of this local expertise in the management and conservation of marine resources could also stimulate and encourage communities to reclaim or continue their traditional proprietary roles, and strengthen their identities in a complex and changing world.

4.1.3 Alternative 1C: Delineate and implement four separate demersal FEPs surrounding each archipelago as well as a single Pelagic FEP that includes the entire region (Preferred)

Impacts on the physical environment

Under Alternative 1C, contiguous FEP boundaries would be established to enclose each of the region's four archipelagic areas (American Samoa, the Hawaiian Islands and Johnston Atoll, the Marinas Islands, and the remaining Pacific Remote Island Areas of Johnston, Wake, Howland, Baker, Jarvis, and Palmyra some of which are part of the Line and Phoenix Islands) into a separate archipelagic demersal FEP which encompasses Federal waters from 3-200 miles from shore (with the exception of waters around CNMI and the PRIA which do not have state waters and in which instance the demersal FEP boundaries would encompass Federal waters from 0-200 miles from shore).

Under this alternative, the Pelagics FEP would adopt the boundaries now defined for the Pelagics FMP, i.e. Federal waters from 3-200 miles from shore (with the exception of waters around CNMI and the PRIA which do not have state waters and in which instance the Pelagics FEP would encompass Federal waters from 0-200 miles from shore). As in Alternative 1A, in recognition of the highly mobile and often migratory nature of pelagic stocks and fisheries there would be a single Pelagics FEP that would span the entire region. In the short-term current regulations would be unchanged, destructive gear types would continue to be prohibited, definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18 and fishery operations would be adaptively managed under each FEP. In the long-term, increased consideration of fishery interactions and non-fishery impacts on the physical environment associated with the successful implementation of ecosystem management would be expected improve our understanding and conservation of the physical environment.

Impacts to target and non-target species

Short-term impacts to target and non-target species would continue as described in Alternative 1A and Chapter 3. That is current regulations would be unchanged and fisheries would be adaptively managed under the relevant FEPs. As in Alternative 1A, all stock status and trends would continue to be evaluated as in the current Report to Congress, with changes to this approach considered as new information becomes available. Also as in Alternative 1A, regardless of the geographic categorization of stocks, issues of local depletion could also be considered for management response as necessary. In the long-term, increased consideration of fishery interactions and non-fishery impacts on target and non-target species would be expected to improve management of these resources.

Impacts to protected species

In the short-term impacts to protected species would continue as described in Alternative 1A and Chapter 3. That is, current regulations would be unchanged, fisheries would be adaptively managed under the relevant FEPs, and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, increased consideration of fishery interactions and non-fishery impacts on protected species could further reduce existing impacts on them.

Impacts to management, administration and enforcement

Impacts to management and administration under Alternative 1C would be mixed as scientists and managers would need to adapt to the place-based and multi-species nature of the FEPs. Scientists would be asked to increasingly consider fishery interactions within archipelagos, as well as the impacts of non-fishery activities on the marine environment. Management plan teams and other advisory groups would be asked to increasingly consider these indirect and often complex impacts when making recommendations. Outside expertise could be required on a case-by-case or continuing basis to supplement currently available scientists and managers. Enforcement could be simplified as fishery regulations for each demersal FEP would contain all (and only) those regulations applicable to that area as compared to Alternative 1A which requires fishery participants and enforcement officers to check each of the four demersal FMPs to discover all of the regulations to which they are potentially subject. Enforcement costs could also be reduced as communities become more involved in fishery management and voluntary compliance is increased.

Impacts to fishery participants and communities

Because the alternatives considered here focus on establishing an institutional structure for ecosystem approaches to management rather than regulatory changes to fishery operations, none are anticipated to have any significant short-term impacts on fishery participants or communities. However if successful, the long-term impact under Alternative 1C would be anticipated to be as described under Alternative 1B.

4.1.4 Alternative 1D: Delineate and implement separate FEPs for each biogeographic and pelagic zone

Impacts to the physical environment

As described in Chapter 2, under Alternative 1D, potentially non-contiguous FEP boundaries would be established to enclose each of four biogeographic regions (coral reef, benthic habitat, seamount, and pelagic) within each of the four archipelagos. In the short-term current regulations would be unchanged, destructive gear types would continue to be prohibited, definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18 and fishery operations would be adaptively managed under each FEP. In the long-term, increased consideration of fishery interactions and non-fishery impacts on the physical environment would be expected improve our understanding and conservation of the physical environment. As compared to Alternative 1A (no action) this alternative would improve our ability to understand and manage impacts using the place-based approach that characterizes ecosystem approaches to management. As compared to Alternatives 1B and 1C, this alternative would facilitate the management of these smaller ecosystems as semi-unique units. However their small size could result in management that fails to fully consider the interconnectedness of these small ecosystems within their larger archipelagic or pelagic ecosystems.

Impacts to target and non-target species

Short-term impacts to target and non-target species would continue as described in Alternative 1A and Chapter 3. That is current regulations would be unchanged and fisheries would be adaptively managed under the relevant FEPs. As in Alternative 1A, all stock status and trends would continue to be evaluated as in the current Report to Congress, with changes to this approach considered as new information becomes available. Also as in Alternative 1A, regardless of the geographic categorization of stocks, issues of local depletion could also be considered for management response as necessary. In the long-term, increased consideration of fishery interactions and non-fishery impacts on target and non-target species would be expected to improve management of these resources. As compared to Alternatives 1B and 1C, the use of biogeographic FEPs would be more likely to result in management measures specifically tailored to these relatively small regions where data is available. However their small size could also result in management that fails to fully consider the interconnectedness of these small ecosystems within their larger archipelagic or pelagic ecosystems.

Impacts to protected species

In the short-term impacts to protected species would continue as described in Alternative 1A and Chapter 3. That is, current regulations would be unchanged, fisheries would be adaptively managed under the relevant FEPs, and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, increased consideration of fishery interactions and non-fishery impacts on protected species could further reduce existing impacts on them.

Impacts to management, administration and enforcement

Impacts to management, administration and enforcement under this alternative would be high as it would result in the creation of sixteen FEPs, each potentially with its own regulations for various fishery sectors. Annual stock evaluation reports would be required in association with each of these twelve FEPs, and subsequent amendments would need to be considered, analyzed and documented for each FEP. Such analyses will require highly detailed site specific data that is not currently available and may be hard to obtain through traditional fishery dependent data collection as the areas may be too small to be subject to significant fishing effort. The additional management, administration and enforcement costs associated with this alternative have not been quantified but are anticipated to be high.

Impacts to fishery participants and communities

Because the alternatives considered here focus on establishing an institutional structure for ecosystem approaches to management rather than regulatory changes to fishery operations, none are anticipated to have any significant short-term impacts on fishery participants or communities. However if successful, the long-term impact under Alternative 1D would be anticipated to be as described under Alternatives 1B and 1C.

4.2 Issue 2: Species to be managed under fishery ecosystem plans (Regulatory)

4.2.1 Alternative 2A: No Action – do not change the current MUS lists

Impacts to the physical environment

Under Alternative 2A, the current lists of MUS contained in the four existing demersal FMPs would be combined and used in each of the demersal FEPs. Similarly, the species currently managed under the Council's Pelagics FMP would not change and that MUS list would apply to the Pelagics FEP. The MUS lists currently contained in the Council's existing FMPs include those species that are caught in quantities sufficient to warrant management or specific monitoring by NMFS and the Council. Species caught in lesser amounts are also monitored, however they are not generally included in the annual evaluations for stocks managed by the Councils which are currently required under the MSA. The primary impact of inclusion of species in an MUS list is that the species (i.e. the fishery targeting that species) can be directly managed. Impacts to the physical environment of fisheries on non-MUS species are regulated through NMFS' list of allowable gears for each fishery (cite FR notice). In the short-term current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. In the long-term management changes would continue to be considered via fishery regulations, or through changes to NMFS' list of allowable gears.

Impacts to target and non-target stocks

Impacts to target and non-target stocks under Alternative 2A would be anticipated to be the same as those described in Chapter 3. Again, the MUS lists currently contained in the Council's existing FMPs are based upon those species that are caught in quantities sufficient to warrant

management or specific monitoring and the primary impact of inclusion of species in an MUS list is that the species (i.e. the fishery targeting that species) can be directly managed. Under this alternative, changes to the MUS list would continue to be considered as a part of the existing adaptive approach to management.

Impacts to protected species

In the short-term impacts to protected species would be anticipated to be the same as those described in Chapter 3. That is, current regulations and MUS lists would be unchanged, fisheries would be adaptively managed and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, consideration of expanded MUS lists could result in increased monitoring and management of resources of importance to protected species.

Impacts to management, administration and enforcement

This alternative would not have any impacts on management, administration or enforcement, which would continue as described in Chapter 3. Because not all MUS are present throughout the region, this alternative would result in the inclusion of some species that are not actually present in some FEP areas. Although unlikely to have any management impacts, their inclusion would be unnecessary and likely confusing to fishery scientists, managers and enforcement personnel. In addition, as discussed above current MSA requirements specify that annual evaluations be prepared for stocks managed by the Council. It is not clear how these evaluations would account for the inclusion of species that are not present within a given FEP area.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. The inclusion of some demersal MUS in FEPs for areas in which they are not actually present, could be confusing to fishery participants, local communities and other stakeholders however this is not likely to be significant.

4.2.2 Alternative 2B: Define FEP MUS as those existing MUS which are believed to occur within each FEP boundary (Preferred)

Impacts to the physical environment

Under Alternative 2B, those MUS currently listed under the existing five FMPs and known to occur within each selected FEP area would be combined to form the MUS list for each FEP. In the short-term, impacts on the physical environment would be anticipated to the same to those described for Alternative 2A and in Chapter 3 as the removal from the MUS list of species not physically present does not add or subtract anything from the effectiveness of existing management measures for a given area, current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. In the long-term management

changes would continue to be considered via fishery regulations, which would now apply to fisheries targeting the refined MUS list, or through changes to NMFS' list of allowable gears.

Impacts to target and non-target stocks

Impacts to target and non-target stocks under Alternative 2B would be anticipated to be the same as those described in Alternative 2A and Chapter 3. Again, the removal from the MUS list of species not physically present does not add or subtract anything from the effectiveness of existing management measures for a given area. Under this alternative, changes to the MUS list would continue to be considered as a part of the existing adaptive approach to management.

Impacts to protected species

Impacts to protected species would be anticipated to be the same as those described under Alternative 2A and in Chapter 3, as the removal from the MUS list of species not physically present does not add or subtract anything from the effectiveness of existing management measures for a given area. Current regulations would be unchanged, fisheries would be adaptively managed and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes.

Impacts to management, administration and enforcement

This alternative would slightly reduce impacts to management, administration and enforcement as compared to Alternative 2A because it would avoid the confusion that could result from the inclusion on the MUS list of species not physically present, and eliminate the issue of how to address them in the annual evaluations required under the MSA.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However it would eliminate the confusion that could result from the inclusion on the MUS list of species not physically present in a given FEP area.

4.2.3 Alternative 2C:Define FEP MUS as the existing MUS plus incidentally caught and associated species, which are known to occur within each FEP boundary

Impacts to the physical environment

Under Alternative 2C, each FEP would include as MUS those target, incidentally caught and associated species (species which occupy the same or similar niche such as prey competitors or habitat competitors) that are known to occur within each FEP boundary. In the short-term, impacts on the physical environment would be anticipated to the same to those described for Alternative 2A and in Chapter 3 as the removal from the MUS lists of species not physically present does not add or subtract anything from the effectiveness of existing management

measures for a given area, current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. In the long-term management changes would continue to be considered via fishery regulations, which would now apply to fisheries targeting the expanded MUS list, or through changes to NMFS' list of allowable gears.

Impacts to target and non-target stocks

Because fishery managers' direct management authority is limited to operations affecting listed MUS, this alternative would allow fishery operations to be more easily constrained if found to impact any fishery related species known to occur within the FEP boundary. However because incidentally caught and associated species are not currently subject to significant harvest levels and the impact of reducing (or increasing) harvests of target species is unknown, it is uncertain at this time what fishery management actions would be appropriate for their management.

Impacts to protected species

Impacts to protected species would be anticipated to be the same as those described under Alternative 2A and in Chapter 3, as the removal from the MUS list of species not physically present does not add or subtract anything from the effectiveness of existing management measures for a given area. The addition of incidentally caught and associated species to the MUS lists would not be anticipated to have any impact on protected species as they are not the target of fishery operations are not harvested in significant numbers. Current regulations would be unchanged, fisheries would continue to be adaptively managed and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes.

Impacts to management, administration and enforcement

This alternative would significantly increase impacts to management, administration and enforcement as compared to Alternative 2A because it would add species to the MUS lists which would require monitoring and annual evaluation. The number of additional species would vary depending on the location and the definition of FEP boundaries, however there could potentially be several thousand.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However it would eliminate the confusion that could result from the inclusion of species not physically present in a given FEP area.

4.2.4 Alternative 2D: Define FEP MUS as the existing MUS plus incidentally caught and associated species, which are believed to potentially occur within each FEP boundary

Impacts to the physical environment

Under Alternative 2D, each FEP would include as MUS those target, incidentally caught and associated species (species which occupy the same or similar niche such as prey competitors or habitat competitors) that are believed to potentially occur within each FEP boundary. In the short-term, impacts on the physical environment would be anticipated to the same to those described for Alternative 2A and in Chapter 3 as the removal of MUS of species not physically present does not add or subtract anything from the effectiveness of existing management measures for a given area, current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. In the long-term management changes would continue to be considered via fishery regulations, which would now apply to fisheries targeting the expanded MUS list, or through changes to NMFS' list of allowable gears.

Impacts to target and non-target stocks

Because fishery managers' direct management authority is limited to operations affecting listed MUS, this alternative would allow fishery operations to be more easily constrained if found to affect any fishery associated species believed to potentially occur in each FEP boundary. However because incidentally caught and associated species are not currently subject to significant harvest levels and the impact on them of reducing (or increasing) harvests of target species is unknown, additional research would be needed in many cases to determine what fishery management actions would be appropriate for their management.

Impacts to protected species

Impacts to protected species would be anticipated to be the same as those described under Alternative 2A and in Chapter 3, as the removal of MUS of species not physically present does not add or subtract anything from the effectiveness of existing management measures for a given area. The addition of incidentally caught and associated species to the MUS lists would not be anticipated to have any impact on protected species as these species are not the target of fishery operations and are not harvested in significant numbers. Current regulations would be unchanged, fisheries would continue to be adaptively managed and full consideration to impacts to protected species would continue to be given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes.

Impacts to management, administration and enforcement

This alternative would significantly increase impacts to management, administration and enforcement as compared to Alternative 2A because it would add species to the MUS lists which would require monitoring and annual evaluation. The number of additional species would vary depending on the location and the definition of FEP boundaries, however there could potentially be many thousand.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However it would eliminate the confusion that could result from the inclusion of species not physically present in a given FEP area.

4.3 Issue 3: Council Advisory Process (Non-regulatory)

4.3.1 Alternative 3A: No Action – Do not change the current advisory structure

Impacts to the physical environment

Under Alternative 3A, the Council's current advisory structure would not change to one reflecting the geographical orientation of ecosystem management and the need for increased participation by land-based interests. The Council would continue to utilize its existing five Plan Teams, four Advisory Panels, twelve Standing Committees and one Scientific and Statistical Committee to provide scientific and management recommendations to the Council. This alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. In the long-term management changes would continue to be considered via fishery regulations, or through changes to NMFS' list of allowable gears.

Impacts to target and non-target stocks

Under this alternative, current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3.

Impacts to protected species

Under Alternative 3A, impacts on protected species would remain as described in Chapter 3. Fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes.

Impacts to management, administration and enforcement

Impacts to management and administration could be significant under Alternative 3A depending on the FEP boundaries selected. If archipelagic or other place-based FEP boundaries were implemented, an ecosystem approach would require that the existing species based Plan Teams meet together to discuss each FEP's ecosystem and the impacts of all active fisheries on each ecosystem. Given that there are currently five Plan Teams and potentially many more FEPs, the cost of these large meetings in time and money could be high. In addition, this alternative would result in a mis-alignment between the species-based Plan Teams and Standing Committees and the place-based FEPs that could result in fragmented stock assessments, annual reports, and management recommendations. Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However the mis-alignment of species-based Plan Teams and place-based FEPs could result in some confusion for those who wish to participate in the fishery management process.

4.3.2 Alternative 3B: Add a single FEP Plan Team to the current advisory structure

Impacts to the physical environment

Under this alternative, the existing Advisory Panels, Plan Teams, SSC, and Standing Committees would be maintained and one new FEP Plan Team would be established to monitor the development and implementation of FEP(s) for the Western Pacific Region. In the short-term this alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via fishery regulations, or through changes to NMFS' list of allowable gears. In the long-term the addition of an FEP Plan Team that would oversee all the FEPs would be anticipated to potentially improve our understanding and management of fishery impacts on the physical environment, however it is not clear whether a single plan team could effectively monitor all FEPs to achieve this result.

Impacts to target and non-target stocks

In the short-term under this alternative current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3. In the long-term the addition of an FEP Plan Team that would oversee all the FEPs would be anticipated to potentially improve our understanding and management of fishery impacts on target and non-target stocks, however it is not clear whether a single plan team could effectively monitor all FEPs to achieve this result.

Impacts to protected species

Under Alternative 3B, short-term impacts on protected species would remain as described in Chapter 3. In the long-term fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, the addition of an FEP Plan Team that would oversee all the FEPs would be anticipated to potentially improve our understanding and management of fishery impacts on protected species, however it is not clear whether a single plan team could effectively monitor all FEPs to achieve this result.

Impacts to management, administration and enforcement

Impacts to management and administration would be anticipated to be moderate under Alternative 3B. In the short-term, the establishment and implementation of a single additional FEP Plan Team would not represent a major cost. In the long-term, the addition of an FEP Plan Team that would oversee all the FEPs would be anticipated to potentially improve our

understanding and management of fisheries in the Western Pacific Region, however it is not clear whether a single plan team could effectively monitor all FEPs to achieve this result. Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However the addition of a single FEP Plan Team could either clarify the FEP management process for those who wish to participate in it, or it could lead to confusion by overlaying the existing species-based Plan Teams and Standing Committees and creating unclear lines of communication and management authority.

4.3.3 Alternative 3C: Replace the current FMP Advisory Panels, Plan Teams, and five Standing Committees with FEP Advisory Panels, FEP Plan Teams and FEP Standing Committees

Impacts to the physical environment

Under Alternative 3C, the existing Advisory Panels, FMP Plan Teams and five Standing Committees (Pelagics, Crustaceans, Bottomfish and Seamount Groundfish, Precious Corals, and Ecosystems and Habitat) would be replaced with FEP based Advisory Panels, and FEP Plan Teams based on each FEP's boundaries (e.g. a Hawaii archipelago FEP Plan Team, a Northern Mariana Islands Archipelago Advisory Panel etc.). The single SSC would continue to function as at present. The FEP Advisory Panels, Plan Teams and Standing Committees would assume all the duties and responsibilities of the existing groups including the review of fisheries catch and effort data and the development of appropriate management measured based on ecosystem principles. Each FEP Plan Team would develop annual reports for all fisheries within the FEP boundaries for which they are responsible, and all groups would provide advice to the Council as under the current process described in Alternative 3A. In the short-term this alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via fishery regulations, or through changes to NMFS' list of allowable gears. In the long-term the change to a place-based advisory structure that is aligned with the FEPs would be anticipated to significantly improve our understanding and management of fishery impacts on the physical environment through the holistic consideration of all impacts within a given area by each FEP advisory group.

Impacts to target and non-target stocks

In the short-term under this alternative current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3. In the long-term the change to a place-based advisory structure that is aligned with the FEPs would be anticipated to significantly improve our understanding and management of fishery

impacts on target and non-target species through the holistic consideration of all impacts within a given area by each FEP advisory group.

Impacts to protected species

Under Alternative 3C, short-term impacts on protected species would remain as described in Chapter 3. In the long-term fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, the change to a place-based advisory structure that is aligned with the FEPs would be anticipated to significantly improve our understanding and management of fishery impacts on protected species through the holistic consideration of all impacts within a given area by each FEP advisory group.

Impacts to management, administration and enforcement

Impacts to management and administration would be anticipated to be significant under Alternative 3C. The transition to a place-based advisory structure would entail significant and ongoing costs, largely because to be successful each FEP Plan Team would need to include members with local expertise in each of the five species groups managed by the Council. Due to its remote location and relatively few major universities or other research institutions, finding sufficient numbers of members to participate in each of the FEP Plan Teams would be anticipated to be difficult and would likely require recruitment from other areas. These recruits may or may not have training or knowledge of local conditions, and their participation would entail significant travel time and costs. If the FEP Plan Teams were comprised only of the limited number of available local experts (i.e. current FMP Plan Team members), each member would likely have to serve on numerous FEP Plan Teams. This would represent a significant increase in their responsibilities and time commitments. Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However the implementation of a place-based advisory structure that is aligned with the FEPs would be anticipated to enhance opportunities for participation in the management process by fishery participants and communities as there would be clearly defined advisory groups with responsibility for each FEP area with which to interact. The alignment of the advisory groups with the geographic locations of fisheries and communities would also be anticipated to increase the sense of shared ownership and investment in the management of marine resources by both residents and managers as FEP advisory bodies would now be assigned to a place rather than a species or interest group.

4.3.4 Alternative 3D: Replace the current FMP Advisory Panels, Plan Teams, and five Standing Committees with FEP Advisory Panels, FEP Standing Committees and two FEP Plan Teams (Preferred)

Impacts to the physical environment

As in Alternative 3C, this alternative would replace the existing Advisory Panels and five of the Standing Committees with FEP Advisory Panels and FEP Standing Committees. However this alternative would replace the existing five FMP Plan Teams with a single Demersal FEP Plan Team and a single Pelagic FEP Plan Team that would each be responsible for overseeing the development and implementation of all demersal and pelagic FEPs respectively. All groups would provide advice to the Council as under the current process described in Chapter 3. In the short-term this alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via fishery regulations, or through changes to NMFS' list of allowable gears. In the long-term the change to a place-based advisory structure that is aligned with the FEPs would be anticipated to significantly improve our understanding and management of fishery impacts on the physical environment through the holistic consideration of all impacts within a given area by each FEP advisory group.

Impacts to target and non-target stocks

In the short-term under this alternative current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3. In the long-term the change to a place-based advisory structure that is aligned with the FEPs would be anticipated to significantly improve our understanding and management of fishery impacts on target and non-target species through the holistic consideration of all impacts within a given area by each FEP advisory group.

Impacts to protected species

Under Alternative 3D, short-term impacts on protected species would remain as described in Chapter 3. In the long-term fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, the change to a place-based advisory structure that is aligned with the FEPs would be anticipated to significantly improve our understanding and management of fishery impacts on protected species through the holistic consideration of all impacts within a given area by each FEP advisory group.

Impacts to management, administration and enforcement

Impacts to management and administration not anticipated to be negatively significant under Alternative 3D, however the short-term the transition to a place-based advisory structure would entail some costs and planning effort. This alterative would result in two FEP Plan Teams (Demersal and Pelagic), the members of the current demersal Plan Teams (Bottomfish, Crustaceans, Precious Corals and Coral Reef Ecosystems) would be combined to comprise the Demersal Plan Team which would be responsible for all demersal FEPs. The current Pelagics FMP Plan Team would become the Pelagics FEP Plan Team with no changes. Long-term positive impacts are expected under this alternative as additional costs are anticipated to be

minimal and could even be reduced as Council staff would only have to staff and brief two Plan Teams on current issues as opposed to the existing five. In addition, the utilization of the same FEP Plan Team across all demersal FEPs would be anticipated to increase the transfer of experience and knowledge between FEP areas, while maintaining the holistic consideration of all impacts within a given area. Similarly, the continued utilization of a single Pelagics Plan Team would be anticipated to maintain the current broad and integrated approach to the management of migratory species that range across the Western Pacific Region. Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. The increased alignment of the advisory groups with inter-related fisheries would also be anticipated to increase the sense of shared ownership and investment in the management of marine resources by both residents and managers as FEP advisory bodies would now be tasked with a broad range of fisheries (e.g. all demersal fisheries) rather than a single species or interest group.

4.4 Issue 4: Regional Coordination (Non-regulatory)

4.4.1 Alternative 4A: No Action - do not establish Ocean Council type groups

Impacts to the physical environment

Under this alternative the Council would not establish or support additional Ocean Council type groups but would continue to provide information regarding the impacts of land-based and non-fishing activities through its membership on the existing Hawaii Ocean and Coastal Committee and as requested on an ad hoc basis. This alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via changes to fishery regulations, or through changes to NMFS' list of allowable gears.

Impacts to target and non-target stocks

Under Alternative 4A, current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3.

Impacts to protected species

Under this alternative, impacts on protected species would remain as described in Chapter 3. Fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes.

Impacts to management, administration and enforcement

This alternative would not have any impacts on management, administration or enforcement, which would continue as described in Chapter 3

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. However over time the failure to consider the full range of impacts of non-fishing activities on marine ecosystems could result in stock depletion, habitat damage and the degradation or loss of marine resources on which fishery participants and communities depend.

4.4.2 Alternative 4B: Establish Regional Ecosystem Council Committees (Preferred)

Impacts to the physical environment

Under this alternative, the Council would establish Regional Ecosystem Advisory Committees comprised of representatives from Federal, state, and local government agencies, businesses and non-governmental organizations that have responsibility or interest in land-based and non-fishing activities that potentially affect the marine environment. Committee membership would be by invitation and would provide a mechanism for the Council and member agencies to share information on programs and activities and to coordinate management efforts or resources to address non-fishing related issues which affect could ocean and coastal resources within and beyond the jurisdiction of the Council. Committee meetings would coincide with regularly scheduled Council meetings and recommendations made by the committee to the Council would be advisory, as would recommendations made by the Council to member agencies. In the short-term this alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via changes to fishery regulations, or through changes to NMFS' list of allowable gears. In the long-term, the establishment of Regional Ecosystem Committees would enhance the Council's ability to coordinate with member management agencies in efforts to address non-fishing related issues that could impact the physical environment.

Impacts to target and non-target stocks

In the short-term under this alternative current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3. In the long-term the establishment of Regional Ecosystem Committees would enhance the Council's ability to coordinate with member management agencies in efforts to address non-fishing related issues which could beneficially impact target and non-target stocks.

Impacts to protected species

Under Alternative 4B, short-term impacts on protected species would remain as described in Chapter 3. In the long-term fisheries would be adaptively managed under the FEPs, with full

consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term, the establishment of Regional Ecosystem Committees would enhance the Council's ability to coordinate with member management agencies in efforts to address non-fishing related issues that could impact protected species.

Impacts to management, administration and enforcement

Impacts to management and administration would be anticipated to be significant under Alternative 4B. The creation of one or more Regional Ecosystem Committees (presumably one per FEP) would entail some ongoing travel and time costs related to hosting and staffing Committee meetings. These would vary according to the size and number of Committees. More significantly, the establishment of Regional Ecosystem Committees would enhance the Council's ability to coordinate with member management agencies in efforts to address non-fishing related issues and would improve our understanding and management of fisheries in the Western Pacific Region. Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. The establishment of Regional Ecosystem Committees would provide additional venues for engagement in the management process and may attract new participants who would bring additional expertise and local perspectives to that process, thus further improving the status and management of marine fisheries.

4.4.3 Alternative 4C: Participate in and support Ocean Council type groups

Impacts to the physical environment

Under this alternative, the Council would not establish any new committees or other groups but would instead participate in and support and the establishment of Ocean Council type groups established by the Governor of each inhabited island area served by the Council (i.e. American Samoa, Guam, Hawaii and the Commonwealth of the Northern Mariana Islands). Such a group has been established by the Governor of Hawaii (the Hawaii Ocean and Coastal Committee) and is comprised primarily of local and county agencies with oversight of development, ocean recreation, tourism, and natural resource management. In the short-term this alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via changes to fishery regulations, or through changes to NMFS' list of allowable gears. In the long-term participation in Ocean Council type groups throughout the Western Pacific Region would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact the physical environment. However it is uncertain if or when the region's non-

Hawaii Governors would establish such Ocean Council type groups. If they are not established, the non-Hawaii regions will not see these benefits under this alternative.

Impacts to target and non-target stocks

In the short-term under this alternative, current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3. In the long-term participation in Ocean Council type groups throughout the Western Pacific Region would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact target and non-target stocks. However it is uncertain if or when the region's non-Hawaii Governors would establish such Ocean Council type groups. If they are not established, the non-Hawaii regions will not see these benefits under this alternative.

Impacts to protected species

Under Alternative 4C, short-term impacts on protected species would remain as described in Chapter 3. In the long-term fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term participation in Ocean Council type groups throughout the Western Pacific Region would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact protected species. However it is uncertain if or when the region's non-Hawaii Governors would establish such Ocean Council type groups. If they are not established, the non-Hawaii regions will not see these benefits under this alternative.

Impacts to management, administration and enforcement

Impacts to management and administration would be anticipated to be moderate to uncertain under Alternative 4C. Involvement in Ocean Council type groups would entail some travel and time costs related to group meetings. These would vary according to the number of groups and meetings but would be generally low as the meetings would not be hosted or staffed by the Council. In the long-term participation in Ocean Council type groups throughout the Western Pacific Region would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues in a manner that would improve the status and management of marine fisheries. However it is uncertain if or when the region's non-Hawaii Governors would establish such Ocean Council type groups. If they are not established, the non-Hawaii regions will not see these benefits under this alternative. Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place under this alternative.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. Support and participation by the Council in Ocean Council type groups throughout the Western Pacific Region could encourage their development

in the non-Hawaii areas. If successful, this would provide additional venues for engagement in the management process and may attract new participants who would bring additional expertise and local perspectives to that process, thus further improving the status and management of marine fisheries.

4.4.4 Alternative 4D: Establish independent Regional Ecosystem Councils

Impacts to the physical environment

Under this alternative, the Council, NOAA, and NMFS would together establish and administer independent Regional Ecosystem Councils to supplement the existing decision making process. These Regional Ecosystem Councils would be comprised of executive level representatives from Federal, state and local government agencies, businesses and non-governmental organizations that have responsibility or interest in land-based and non-fishing activities that potentially affect the marine environment. In the short-term this alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered via changes to fishery regulations, or through changes to NMFS' list of allowable gears. In the long-term participation in independent Regional Ecosystem Councils would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact the physical environment. However it is uncertain if or when NOAA and NMFS would establish such Regional Ecosystem Councils. If they are not established, the impacts of this alternative will be the same as those described for Alternative 4A (no action).

Impacts to target and non-target stocks

In the short-term under this alternative, current regulations would be unchanged and impacts to target and non-target stocks would be anticipated to be the same as those described in Chapter 3. In the long-term participation in independent Regional Ecosystem Councils would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact target and non-target stocks. However it is uncertain if or when NOAA and NMFS would establish such Regional Ecosystem Councils. If they are not established, the impacts of this alternative will be the same as those described for Alternative 4A (no action).

Impacts to protected species

Under Alternative 4D, short-term impacts on protected species would remain as described in Chapter 3. In the long-term fisheries would be adaptively managed under the FEPs, with full consideration to impacts to protected species given in accordance with the MSA, the MMPA, the ESA, NEPA and other applicable laws and statutes. In the long-term participation in independent Regional Ecosystem Councils would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact protected species. However it is uncertain if or when NOAA and NMFS would establish

such Regional Ecosystem Councils. If they are not established, the impacts of this alternative will be the same as those described for Alternative 4A (no action).

Impacts to management, administration and enforcement

Impacts to management and administration would be anticipated to be moderate to uncertain under Alternative 4D. Involvement in independent Regional Ecosystem Councils would entail some travel and time costs related to group meetings. These would vary according to the number of groups and meetings but would be generally low as the meetings would not be hosted or staffed by the Council. In the long-term participation in independent Regional Ecosystem Councils would enhance the Council's ability to positively influence and coordinate management efforts or resources to address non-fishing related issues that could impact the physical environment. However it is uncertain if or when NOAA and NMFS would establish such Regional Ecosystem Councils. If they are not established, the impacts of this alternative will be the same as those described for Alternative 4A (no action). Impacts to enforcement would be anticipated to be unchanged as current regulations would remain in place under this alternative.

Impacts to fishery participants and communities

This alternative would not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. Support and participation by the Council in independent Regional Ecosystem Councils could encourage their development. If successful, this would provide additional venues for engagement in the management process and may attract new participants who would bring additional expertise and local perspectives to that process, thus further improving the status and management of marine fisheries. However it is uncertain if or when NOAA and NMFS would establish such Regional Ecosystem Councils, if they are not established over time the failure to consider the full range of impacts of non-fishing activities on marine ecosystems could result in stock depletion, habitat damage and the degradation or loss of marine resources on which fishery participants and communities depend.

4.5 International Coordination (Non-regulatory)

4.5.1 Alternative 5A- No action

Impacts to physical environment

Under this alternative, the Council would continue to participate in international management fora such as the Western and Central Pacific Fisheries Commission (U.S. is a cooperating non-member) as well as workshops and seminars (e.g. International Fishers' Forum). This alternative would not have any impact on the physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered under existing Council protocols and procedures.

Impacts to target and non-target species

The Council's current level of participation and involvement in international management fora positively impacts target and non-target species through shared stock management coordination amongst nations. In 2000, For example, the Council played an integral role in development of the Multilateral High Level Conference to establish the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Central and Western Pacific Region. The Western and Central Pacific Fisheries Commission (U.S. is a cooperating non-member) as well as the Inter-American Tropical Tuna Commission (U.S. is member) meet annually and the Council plays a critical role in advising the U.S. delegation (at these meetings) on issues relating highly migratory pelagic stocks that occur in the Western Pacific Region. Issues considered at such meetings include stock assessments, data and information collections, and enforcement. No negative impacts to target and non-target species are expected to result from the continued level of Council participation in international management fora.

Impacts to protected species

The Council's continued participation in international management fora is anticipated to positively impact protected species. Currently, the Council actively participates in international meetings and workshops aimed at reducing bycatch of protected species in fisheries. For example, the Council has played an integral role in each of the International Fishers' Forums (2000, 2002, 2005) which bring together fishers from all over the world to discuss and share methods on ways to reduce protected species bycatch. Through cooperative research and conservation efforts, the Council also participates in international programs aimed at reducing sea turtle interactions with fisheries through gear modifications (e.g. Circle hooks) with sea turtles as well as working on sea turtle conservation with local communities (e.g. Papua New Guinea) to protect sea turtle nesting sites. Negative impacts on protected species are not anticipated under this alternative.

Impacts to management, administration, and enforcement

The Council's current level of participation in international management fora does impact the Council's administrative budget as well as require staff time to help plan international meetings, write papers, and travel to and from various locations. The amount of resources or staff time dedicated to international management fora make up a small percentage of the resources or staff time dedicated to domestic fishery issues.

Impacts to fisheries participants and communities

The Council's current level of participation in international management fora beneficially impacts fisheries participants and communities by representing Western Pacific Region fisheries participants and communities which may be affected by international management decisions. The Council's international work on protected species bycatch reduction and conservation also beneficially impacts fishery participants by exporting effective gear methods to other fishing nations. The objective of this work is to help the recovery of threatened and endangered species populations, and increased levels of these populations indirectly benefits fishery participants and

communities which would otherwise be affected by regulations/closures of fisheries due to interactions with protected species with critically low populations. The Council represents various constituencies (i.e. commercial, recreational, subsistence sectors) and Council meetings provide mechanism for the general public to be involved in fishery management decisions. Therefore, the Council's participation in international fora also benefits fishery participants and communities by keeping them aware of international management issues (e.g. stock assessments, gear methods) which may affect them locally.

4.5.2 Alternative 5B- Increase level of participation in international management fora and establish meetings/workshops with neighboring nations of Western Pacific Region island areas (Preferred)

Impacts to physical environment

This alternative is not expected to impact the physical environment as destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes as a result of informational exchange or requirements from international commissions would continue to be considered under existing Council protocols and procedures.

Impacts to target and non-target species

Increasing level of Council participation and involvement in international management fora and establishing meetings/workshops with neighboring nations is expected to positively impact target and non-target species through informational exchange regarding shared stock management and coordination amongst nations.

Impacts to protected species

Increasing level of Council participation and involvement in international management fora and establishing meetings/workshops with neighboring nations is expected to positively impact protected species through informational exchange and shared strategies on reducing interactions between fisheries and protected species. The Council has already initiated programs to export gear methods successful in reducing interactions to various countries (e.g. Circle hooks in Ecuador small boat longline fleet) as well as work with community groups on sea turtle conservation efforts (e.g. Papua New Guinea leatherback sea turtle nesting beach conservation). Similarly, establishing meetings and workshops between neighboring nations of island areas in the Western Pacific Region may positively impact protected species sharing information regarding the management of protected species that both in the U.S. EEZ as well as neighboring EEZs.

Impacts to management, administration, and enforcement

This alternative is anticipated to impact management and administration by taking up staff time to prepare reports, coordinate meetings, and travel to and from meeting locations. While work participation in international management meetings and workshops would increase under this

alternative, the increased level of work is not expected to significantly affect staff time. However, administrative costs may increase under this alternative to pay for meeting travel. Coordination of meetings/workshops between Western Pacific Region island areas and neighboring nations would also likely involve staff time. Enforcement costs are not expected to increase over current levels.

Impacts to fishery participants and communities

An increased level of Council participation in international management fora and the establishment of meetings/workshops with neighboring nations would beneficially impact fisheries participants and communities by keeping them aware of international management issues (e.g. stock assessments, gear methods) as well as current status of fisheries in neighboring nations.

4.5.3 Alternative 5C- Do not participate in international management fora and establish meetings/workshops with neighboring nations of Western Pacific Region island areas

Impacts to physical environment

Under this alternative, the Council would stop participating in international management fora such as the Western and Central Pacific Fisheries Commission and the IATTC, and would stop holding, sponsoring or participating in international workshops and meetings (e.g. International Fishers' Forums). This alternative would not have any impact on the Western Pacific Region's physical environment as current regulations would be unchanged, destructive gear types would continue to be prohibited, and definitions of essential fish habitat and habitat areas of particular concern would remain as described in Table 18. Management changes would continue to be considered under existing Council protocols and procedures. However any efforts by the Council to educate other nations and fishermen as to the importance of prohibiting the use of destructive gear types or fishing methods such as dynamite, bleach, and poisons would cease under this alternative.

Impacts to target and non-target species

This alternative could have negative impacts on target and non-target species as the Council's input to and participation in international management fora, meetings and workshops would represent a reduction in the information and management recommendations available to these groups. The Council represents a wide-range of fishery managers, scientists and participants with many years of experience and expertise. The loss of their participation could result in sub-optimal management, conservation and science regimes that would lead to negative impacts on target and non-target species.

Impacts to protected species

This alternative could have negative impacts protected species as the Council's input to and participation in international management fora, meetings and workshops (e.g. International Fishers' Forums) would represent a reduction in the information and management

recommendations available to these groups. The Council represents a wide-range of fishery managers, scientists and participants with many years of experience and expertise. The loss of their participation could result in sub-optimal management, conservation and science regimes that would lead to negative impacts on protected species.

Impacts to management, administration, and enforcement

This alternative would reduce administrative costs as travel costs and associated staff time requirements. On the other hand, management, administration and enforcement costs would all potentially increase as the loss of the Council's input could result in sub-optimal management, conservation and science regimes that would lead to increased costs due to a loss of efficiency or cost-effectiveness in the domestic implementation of these regimes.

Impacts to fisheries participants and communities

This alternative would reduce the Council's ability to represent or engage fishery participants in international management fora, meetings and workshops. It would also reduce the availability to fishery participants and communities as well as the general public of information generated from these meetings that is currently provided by the Council. In addition, the cessation of the Council's international work on protected species bycatch reduction and conservation would negatively impact protected species, which in turn could lead to additional fishery regulations or closures.

4.6 Environmental Justice

On February 11, 1994, then President William Clinton issued Executive Order 12898 (E.O. 12898), "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." E.O. 12898 provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." E.O. 12898 also provides for agencies to collect, maintain, and analyze information on patterns of subsistence consumption of fish, vegetation, or wildlife, that agency action may also affect subsistence patterns of consumption an indicate the potential for disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, and Indian tribes. A memorandum by President Clinton which accompanied E.O. 12898 made it clear that environmental justice should be considered when conducting NEPA analyses by stating: "Each Federal agency should analyze the environmental effects, including human health, economic, and social effects of Federal actions, including effects on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA.[18]

As described in Chapter 3, the inhabited island areas of the Western Pacific Region are home to indigenous peoples of Samoan, Chamorro, Carolinian, and Hawaiian ancestry. In addition, each inhabited island of the Western Pacific Region has been defined as a fishing community. As

[18] Memorandum from the President to the Heads of Departments and Agencies. Comprehensive Presidential Documents No. 279 (Feb. 11, 1994).

described in Chapter 3, the economic conditions of the Western Pacific Region are such that there is little diversification within economies, with tourism being the most important contributor. Many indigenous, as well as non-indigenous people of Western Pacific Region islands depend on healthy ecosystems for subsistence as well as for social and economic benefits. The Federal actions contemplated in the PDEIS are designed to enhance fisheries management by considering the implications of fisheries management within an ecosystem context. As Chapters 1 and 4 describe, an ecosystem approach to fisheries management involves shifting from species management to place-based management. In doing so, the role within fisheries management of indigenous peoples, fishery participants, and community members will be strengthened. Traditional and accumulated knowledge of local, island fishermen is especially rich (Johannes 1981) and the Council's transition to an ecosystem approach is designed to access their understanding of the marine environment. For these reasons, none of the actions considered in this DPEIS are expected to adversely affect minority or low-income populations, but on the contrary, the actions considered are designed to facilitate and strengthen the role of such groups within fishery management decisions affecting their areas.

4.7 Cumulative Effects

NEPA requires that the potential cumulative effects of a proposed action, as well as the cumulative effects of the alternatives to the proposed action, be analyzed in an EIS. Cumulative effects are defined as those combined effects on the human environment that result from the incremental impact of the proposed action when added to other past, present and reasonably foreseeable future actions, regardless what Federal or non-Federal agency or person undertakes such other actions (40 CFR 150.8.7). The following cumulative effects analysis is organized by issue and resource categories.

4.7.1 Issue 1: Boundaries of Fishery Ecosystem Plans

Impacts to physical environment

As described in 4.1, the delineation of fishery management boundaries does not impact the physical environment of marine ecosystems. The boundaries established under FMPs (Alt. 1A) or boundaries established under FEPs (Alt. 1B, 1C, 1D) do not exist as tangible boundaries, but are strictly geographic representations designated on maps and do not directly involve placing anything structural in the water or physical environment. The implementation of FMPs or FEPs, which in essence manages marine resources by controlling fishing impacts (human activities), allows for the use of vessels and as well as specific gear types. While potential impacts to the physical environment exist under normal fishing vessel operations—groundings resulting in spilled fuel/oil, garbage and wastes, and habitat damage through anchoring—the occurrence of such events are rare and the vessels authorized to fish under FMP permits must comply with national and international maritime law (e.g. U.S. Clean Water Act, MARPOL[19]). In addition, the existing FMPs (Alt. 1A) prohibit the use of destructive fishing gears (e.g. bottom trawl nets,

[19] International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978

explosives, fish poisons) and the FEPs (Alts.1B, 1C, 1D) would also prohibit destructive fishing gears. The cumulative impacts of the operation of fishing vessels when combined with exogenous factors (outside of FMPs of FEPs) that potentially impact the physical environment such as land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities, are not discernable and therefore unlikely to breach any threshold resulting in significant adverse effects on the physical environment of the Western Pacific Region.

Impacts to target and non-target species

As described in Section 4.1, the delineation of FMP (Alt. 1A) or FEP boundaries (1B, 1C, 1D) would not have any direct effects on target or non-target as FMP or FEP boundaries are simply geographic representation on maps. The implementation of FMPs or FEPs to manage fisheries does have potential positive and negative impacts to target and non-target species. Although FMPs and FEPs would allow the harvest of target and non-target species which potentially may have negative impacts on these populations, positive impacts on target and non-target species from FMPs or FEPs result from data collection (e.g. logbooks, observers) on such populations as well as controls on fishing gears and fishing effort (e.g. limited entry, vessel length, closed areas) that otherwise would not be in place without FMPs or FEPs. Under all of the alternatives in this category, the status and trends of target and non-target species would continue to be evaluated as in the current Report to Congress (i.e. using existing criteria and thresholds for defining "overfishing" and "overfished" conditions as currently applied to individual stocks or stock complexes). Under the FEP alternatives (1B, 1C, 1D), management of the existing stock complexes would remain, however, as more information becomes available regarding intra-species and inter-species linkages within FEP areas, increased consideration of fishery interactions and non-fishery impacts on target and non-target species would be expected to improve management of these resources.

The exogenous factors which may impact target and non-target species include environmental fluctuations (e.g. regime shifts), habitat degradation from land-based pollution and run-off, dredging of harbors and other coastal areas, ocean tourism activities, ocean drilling and mining, shipping activities, research vessel activities, and marine debris and derelict fishing gear (i.e. ghost fishing). As the implementation of FMPs and FEPs result in controlling fishery harvests and establish data collection programs, the cumulative effect establishing FMP or FEP boundaries when added to the effect of exogenous factors is not anticipated to result in significant adverse affects to target and non-target species.

Impacts to protected species

As described in Section 4.1, the delineation of FMP (Alt. 1A) or FEP boundaries (1B, 1C, 1D) would not have any direct effects on protected species as FMP or FEP boundaries are simply geographic representation on maps. Although implementing FMPs or FEPs do allow for low level interactions between fisheries and protected species, implementing FMPs or FEPs also result in data collection programs (e.g. logbooks, observers) for which interactions with protected species can be monitored, and where applicable, prevented, reduced, mitigated through area closures, and gear and handling requirements.

Exogenous factors that impact protected species include environmental fluctuations (e.g. regime shifts), habitat degradation from land-based pollution and run-off, direct harvests outside the control of U.S. jurisdiction, ocean tourism activities, ocean drilling and mining, shipping activities, research activities, and marine debris and derelict fishing gear (i.e. entanglements). Currently, every operating fisheries managed under Western Pacific FMPs are in compliance with MSA, ESA, MMPA, MBTA, as well as NEPA, and the level of interactions between protected species and Western Pacific fisheries have been found to not jeopardize the continued existence of any protected species. In the Council's transition to FEPs, current regulations would be unchanged and fisheries would be adaptively managed under the relevant FEPs, and full consideration to impacts to protected species would continue to be given in accordance with MSA, MMPA, MBTA, ESA, and NEPA and other applicable laws and statutes. The cumulative effects of fisheries managed under FMPs or FEPs on protected species are not expected to result long-term, deleterious effects on protected species of Western Pacific Region.

Impacts to management, administration, and enforcement

As discussed in Section 4.1, the delineation of FEP boundaries would have some impact on scientists and managers as they would need to adapt to the place-based and multi-species nature of the FEPs. Exogenous factors which impact management and administration are new legislation, annual budgets, and litigation. Exogenous factors that impact enforcement agencies include shifting priorities for which include Homeland Security, search and rescue, as well as annual budgets impacting staffing and the maintenance and acquisition of assets. The cumulative effects of 1B, 1C on management and administration are not expected to be high or adverse as scientists and managers are increasingly considering ecosystem characteristics and functions within research and management decisions. Alternative 1D, however, could have significant cumulative effects as it would involve a great deal of work to manage and administer regulations for 15- 20 FEPs. Cumulative effects on enforcement under Alternatives 1B and 1C are not expected to be significant as enforcement agencies currently operate within each inhabited area of Western Pacific Region, and to a lesser extent the USCG patrols the U.S. Pacific Remote Island Areas. Alternative 1D, however, produce adverse affects on enforcement agencies if regulations developed were too numerous, inconsistent, or overly specific. As seen in Section 1.6, community participation and management is a major theme in ecosystem approaches to fisheries management. For Alternatives 1B, 1C, 1D, working with communities for them to manage or monitor specific areas may impact administration and management in the short-term, however, once community-based management measures are established, impacts to administration, management, and enforcement agencies may be reduced.

Impacts to fishery participants and communities

As the alternatives for FEP boundaries (other than Alt. 1A) focus on establishing a new institutional structure for implementing a practical step towards an ecosystem approach and current FMP regulations will be not be changed, but simply reorganized dependent on the FEP boundaries, no short-term impacts on fishery participants or communities are expected. The anticipated long-term impacts of implementing FEPs (Alt. 1B, 1C, 1D) might be positive as it may integrate scientific information and human needs in a manner that significantly increases the

involvement of local communities in the management and conservation of marine resources. Exogenous factors which are impacting fishery participants and communities include undiversified economies (i.e. tourism (HI, Guam or canneries in American Samoa), rising costs of living (e.g. gasoline), seafood imports, increasing regulations within fisheries or reduced fishing access (e.g. MPAs). As the implementation of FEPs are anticipated to positively impact fishery participants and communities, the additive value of their impacts are not expected to adversely affect local fishery participants and communities. On the contrary, an objective of the FEP approach is the explicit recognition and increased inclusion of local expertise in the management and conservation of marine resources, which in turn may help reduce the effects of some exogenous factors (e.g. improperly placed MPAs) on fishery participants and communities.

4.7.2 Issue 2: Species Managed Under Fishery Ecosystem Plans

Impacts to the physical environment

The current lists of MUS under existing FMPs (Alt. 2A) do not impact the physical environment nor would the designation of MUS lists specific to FEPs (Alt. 2B, 2C, 2D). Exogenous factors such as land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities have potential impacts to the physical environment. The cumulative effects on the physical environment of maintaining the current lists of MUS or designating new lists of MUS according to FEP boundaries are essentially zero.

Impacts to target and non-species

MUS lists currently contained under existing FMPs (Alt. 2A) are based upon those species that are caught in quantities sufficient to warrant management or specific monitoring and the primary impact of inclusion of species in an MUS list is that the species (i.e. the fishery targeting that species) can be directly managed. Alternative 2B would not affect target and non-target species as it the MUS lists would be organized based on FEP boundaries. Alternatives 2C and 2D, however, involve adding incidentally caught species that are not currently MUS. Although information is collected on non-target species through data collection programs (i.e. mandatory logbooks; voluntary CREEL surveys) the inclusion of these species on MUS lists would require that MSY, EFH, HAPC be designated for each new MUS as well their catch information presented in annual reports. For this reason, adding new species to MUS could result in positive impacts on those species due to increased monitoring and stock assessments. Exogenous factors that potentially impact target and non-target species include habitat degradation from land-based pollution and run-off, dredging of harbors and other coastal areas, ocean tourism activities, ocean drilling and mining, shipping activities, and marine debris and derelict fishing gear (i.e. ghost fishing). Because information regarding the actual effects of exogenous factors on target and non-target species is not available, the cumulative effects of maintaining the current MUS lists vs. adding new species on target and non-target species is indiscernible.

Impacts to protected species

Maintaining the current lists of MUS (Alt. 2A), reorganizing the current lists based on FEP boundaries (2B) or adding incidentally caught species to MUS lists specific to FEP boundaries (Alts. 2C, 2D) have no direct impacts to protected species. The benefit of MUS lists is that management measures can be adopted to reduce or increase harvests of such species. The exogenous impacts to protected species include habitat degradation from land-based pollution and run-off, direct harvests outside the control of U.S. jurisdiction, ocean tourism activities, ocean drilling and mining, shipping activities, and marine debris and derelict fishing gear (i.e. entanglements). MUS lists could result in increased monitoring and management of resources importance to protected species, however, the cumulative effects of MUS on the monitoring and management of MUS important to protected species are likely indiscernible when added to the effects of exogenous factors. Nevertheless, fishery interactions with protected species will be continue to be in accordance with the provisions of MSA, MMPA, ESA, MBTA, NEPA and other applicable laws and statutes.

Impacts to management, administration, and enforcement

As Alternative 2A would maintain the current MUS and Alternative 2B would maintain the current list but organize it a manner to be specific to FEPs, the cumulative effects of alternatives 2A and 2B would be negligible on management, administration, and enforcement, because these groups are already doing work associated with the existing MUS lists. Alternatives 2C and 2D would increase work loads on personnel of these groups as it would take a great deal of work to evaluate and monitor the newly added MUS. Although, the number of additional species would vary depending on the location and the definition of FEP boundaries, there could potentially be several thousand in some locations. The exogenous factors in which agencies deal with new include legislation (i.e. new mandates), annual budgets, and litigation pressures. Requiring that stock assessments and EFH and HAPC be identified for several thousand fish for which data is likely limited, would significantly affect management and administration agencies. Enforcement agencies might also be affected when adding thousands of species to MUS lists as enforcement agents would have to know or be able to identify all of the various species, especially in cases where permits are required to catch particular MUS species, while for other MUS permits are not required.

Impacts to fishery participants and communities

Exogenous factors facing fishery participants and communities include undiversified economies (i.e. tourism (HI, Guam or canneries in American Samoa), rising costs of living (e.g. gasoline), higher amounts of seafood imports, increasing regulations within fisheries or restriction fishing access (e.g. MPAs). As Alternative 2A would maintain the current MUS and Alternative 2B would maintain the current list but organize it a manner to be specific to FEPs, the cumulative effects of alternatives 2A and 2B would be indiscernible. Alternatives 2C and 2D, which would add a significant amount of new species to the MUS lists, might result in feelings by fishery participants and community members that the ocean and its marine resources are overregulated and that they no longer have the freedom or right to fish. Such feelings may result the reduction of fishery participants, which in turn could affect the availability of locally caught fish to community members.

4.7.3 Issue 3: Council Advisory Process

Impacts to physical environment

Alternatives to modify the Council advisory process to be in line with FEPs have no direct impacts to the physical environment. Exogenous factors such as environmental variability (e.g. large storms), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities have potential impacts to the physical environment. Although revising the Council's advisory process to be consistent with place-based FEPs may have positive impacts on the physical environment through increased awareness of specific ecosystems, it is unlikely that the benefits of a reorganized Council advisory process would have cumulative effects discernable over exogenous factors.

Impacts to target and non-target species

Alternatives to modify the Council advisory process to be in line with FEPs have no direct impacts to target and non-target species. Exogenous factors such as environmental fluctuations (e.g. regime shifts) land-based pollution and run-off, ocean drilling and mining, shipping activities, research activities, marine debris including derelict fishing gear, mariculture, and military exercises have potential impacts to target and non-target species. Although revising the Council's advisory process to be consistent with place-based FEPs, it is unlikely that the benefits of a reorganized Council advisory process would have cumulative effects discernable over exogenous factors.

Impacts to protected species

Alternatives to modify the Council advisory process to be in line with FEPs have no direct impacts to protected species. Exogenous factors such as environmental fluctuations (e.g. regime shifts) land-based pollution and run-off, ocean drilling and mining, shipping activities, research activities, marine debris including derelict fishing gear, mariculture, and military exercises have potential impacts to protected species. Although revising the Council's advisory process to be consistent with place-based FEPs, it is unlikely that the benefits of a reorganized Council advisory process would have cumulative effects discernable over exogenous factors

Impacts to management, administration, and enforcement

In the short-term, the transition to a place-based advisory structure would entail some costs for management and administration as it would take some time to organize and plan accordingly. There are no anticipated impacts to enforcement as current regulations would remain in place. The exogenous factors which affect management, administration, and enforcement agencies include legislation (i.e. new mandates), annual budgets, litigation pressures, and shifting priorities. In the long-term, once the FEP advisory structure is in place and planned for, anticipated benefits would be a more focused participation for issues dealing with specific FEPs, while maintaining a holistic consideration of all impacts within a given area. A well organized and planned Council advisory process may produce a cumulative effect that would enhance

management, thus, allowing agencies more ability to the effects of exogenous factor when appropriate.

Impacts to fishery participants and communities

The restructuring of the Council's advisory process does not have any direct impacts on fishery participants or communities as it would not change current fishery regulations. The increased alignment of the advisory groups with place-based fisheries management would be anticipated to increase the sense of shared ownership and investment in the management of marine resources by both residents and managers. The exogenous factors facing fishery participants and communities include undiversified economies (i.e. tourism (HI, Guam or canneries in American Samoa), rising costs of living (e.g. gasoline), higher amounts of seafood imports, increasing regulations within fisheries or restricted fishing access (e.g. MPAs). It is unknown whether a Council advisory process in line with place-based management (i.e. FEPs) will have cumulative effects which might offset the exogenous factors facing fishery participants and communities.

4.7.4 Issue 4: Regional Coordination

Impacts to physical environment

Regional coordination on ecosystem issues between the Council, Federal, state, and local agencies as well as non-business and non-government groups potentially could have positive impacts on the physical environment due to enhanced communication and understanding between agencies and stakeholder groups. The exogenous factors which potentially affect the physical environment include environmental variability (e.g. large storms), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities. Excluding environmental variability, the cumulative effect of regional coordination on the physical environment may be discernable if the regional coordination was effective in reducing the impact of exogenous factors.

Impacts to target and non-target species

Regional coordination on ecosystem issues between the Council, Federal, state, and local agencies as well as non-business and non-government groups potentially could have positive impacts on the target and non-target species due to enhanced communication and understanding between agencies and stakeholder groups. The exogenous factors which potentially impact target and non-target species environmental variability (e.g. regime shifts), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities. Excluding environmental variability, the cumulative effect of regional coordination on the target and non-target species may be discernable if the regional coordination was effective in reducing the impact of exogenous factors.

Impacts to protected species

Regional coordination on ecosystem issues between the Council, Federal, state, and local agencies as well as non-business and non-government groups potentially could have positive impacts on protected species due to enhanced communication and understanding between agencies and stakeholder groups. The exogenous factors which potentially impact protected species environmental variability (e.g. regime shifts), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research activities. Excluding environmental variability, the cumulative effect of regional coordination on the protected species may be discernable if the regional coordination was effective in reducing the impact of exogenous factors. Fisheries would continue to be adaptively managed under the relevant FEPs, and full consideration to impacts to protected species would continue to be given in accordance with MSA, MMPA, MBTA, ESA, and NEPA and other applicable laws and statutes.

Impacts to management, administration, and enforcement

The exogenous factors which potentially impact management, administration, and enforcement agencies include legislation (i.e. new mandates), annual budgets, litigation pressures, and shifting priorities. Alternative 4B would establish ecosystem committees of the WPFMC and would entail travel and time costs related to hosting and staffing Committee meetings. Alternatives 4C and 4D would entail travel and time costs for the management, administration, and enforcement agency representatives. The cumulative impacts of planning or attending regional coordination meetings are not expected to adversely affect management, administration, or enforcement agencies because attending or planning meetings is standard practice for agency personnel. On the contrary, the establishment of Regional Ecosystem Committees or Councils may have discernable, positive impacts on management, administration, and enforcement agencies through enhanced coordination of management efforts and or the reduction of duplicative management efforts.

Impacts to fisheries participants and communities

The establishment of Regional Ecosystem Committees or Councils would provide additional venues for fishery participants and community members to engage in the management process and may attract new contributors who would bring additional expertise and local perspectives to that process, thus further improving the status and management of marine fisheries. The exogenous factors which face fisheries participants and communities include undiversified economies (i.e. tourism (HI, Guam or canneries in American Samoa), rising costs of living (e.g. gasoline), seafood imports, increasing regulations within fisheries or restriction of fishing access (e.g. MPAs). By improving the status and management of marine fisheries, the cumulative effects include the continuation of sustainable, local fisheries.

4.7.5 Issue 5: International Coordination

Impacts to physical environment

Increasing the Council's level of participation in international management fora as well as establishing meetings between neighboring nations could have positive impacts on the physical environment due to enhanced communication and understanding between agencies and

stakeholder groups. The exogenous factors which potentially affect the physical environment include environmental variability (e.g. large storms), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities. Excluding environmental variability, the cumulative effect of increased Council participation in international management fora on the physical environment may be discernable if the coordination was effective in reducing the impact of exogenous factors.

Impacts to target and non-target species

Increasing the Council's level of participation in international management fora as well as establishing meetings between neighboring nations potentially could have positive impacts on the target and non-target species due to enhanced communication and understanding between agencies and stakeholder groups. The exogenous factors which potentially impact target and non-target species environmental variability (e.g. regime shifts), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research vessel activities. Excluding environmental variability, the cumulative effect of the Council's increased level of participation in international management fora on the target and non-target species are not likely to be discernable within the impacts exogenous factors. The cumulative effect of an increased level of participation in international management may be discernable on target and non-target species through information sharing and enhanced fisheries management coordination.

Impacts to protected species

Increasing the Council's level of participation in international management fora as well as establishing meetings between neighboring nations could have positive impacts on protected species due to enhanced communication and understanding between agencies and stakeholder groups. The exogenous factors which potentially impact protected species environmental variability (e.g. regime shifts), land-based pollution and run-off, ocean drilling and mining, shipping activities, marine debris including derelict fishing gear, mariculture, military exercises, as well as research activities. Excluding environmental variability, the cumulative effect of regional coordination on the protected species may be discernable if the Council's participation was effective in reducing the impact of exogenous factors. Fisheries would continue to be adaptively managed under the relevant FEPs, and full consideration to impacts to protected species would continue to be given in accordance with MSA, MMPA, MBTA, ESA, and NEPA and other applicable laws and statutes.

Impacts to management, administration, and enforcement

The exogenous factors which potentially impact management, administration, and enforcement agencies include legislation (i.e. new mandates), annual budgets, litigation pressures, and shifting priorities. The cumulative impacts of helping plan or attending international management meetings are not expected to adversely affect management, administration, or enforcement agencies because attending or planning meetings is already taking place. An increased level of Council participation and the establishment of meetings and workshops with neighboring nations

s may have discernable, positive impacts on management, administration, and enforcement agencies through enhanced coordination of management efforts and information sharing.

Impacts to fisheries participants and communities

Increasing the Council's level of participation in international management fora as well as establishing meetings between neighboring nations would provide additional venues for fishery participants and community members to engage in the management process and may attract new contributors who would bring additional expertise and local perspectives to that process, thus further improving the status and management of marine fisheries. The exogenous factors which face fisheries participants and communities include undiversified economies (i.e. tourism (HI, Guam or canneries in American Samoa), rising costs of living (e.g. gasoline), seafood imports, increasing regulations within fisheries or restriction of fishing access (e.g. MPAs). By improving the status and management of marine fisheries, the cumulative effects include the continuation of sustainable, local fisheries.

4.8 Reasons for choosing the preferred alternatives

The preferred alternatives would together facilitate a practical ecosystem approach to fisheries management in the Western Pacific Region so that the full range of fisheries' impacts and other activities on marine ecosystems are addressed in a manner which coherently considers each archipelago's biological resources, physical conditions, socioeconomic needs and cultural traditions. The Council presently manages U.S. Pacific island-based pelagic fisheries and four demersal fisheries (bottomfish and seamount groundfish, crustaceans, precious corals and coral reef resources) under FMPs. While the 1996 Sustainable Fishery Act amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) did require regional fishery management councils to consider fishery impacts on other species not managed under FMPs (e.g. bycatch reduction), there are several limitations (discussed below) of the current management framework (i.e. species-based FMPs) that hinders the Council in conserving a wider range of marine resources as well as protecting marine ecosystems.

Current stock assessments generally do not explicitly recognize the significant natural variability in marine resources and habitats, although some models do incorporate spatial and temporal environmental effects. Under place-based FEPs, stock assessments will increasingly and explicitly separate environmentally-driven resource variability (e.g. inter-annual, decadal, long-term ocean regime shifts) from fishery-driven and habitat-driven effects on target stocks and other components of ecosystems, thus improving fishery science and management.

In addition, the majority of current monitoring under FMPs accounts for major resource removals by fishing, but not by other sources such as coastal development, which has destroyed or severely degraded inshore fish habitat and associated stocks around the more heavily populated islands of the U.S. Pacific. Through regional coordination efforts under place-based FEPs, considerations all sources of resource removal, including those related to shoreline modification, waste discharge, watershed erosion, storm runoff and other terrestrial activities.

FEP-based monitoring will ultimately include ecosystem indicators and models which take into account non-fishing uses, their impacts on resources, and even the tradeoffs among different user groups who depend on the same resource.

The preferred alternatives would promote a holistic view of marine resources through increased examination of meta-population resource dynamics and linkages between upland watershed activities, coastal habitats and nearshore waters. This in turn will lead to enhanced understanding and improved management of the relationships between different fish stocks and users of those stocks. In general, species-based FMPs focus on individual stocks of fish or related species and the people who harvest them. However, fish and fishermen do not act in isolation, and fishermen may be active in several fisheries targeting different resources over years or even seasonally. Furthermore, the harvests of one species often influence the dynamics of fish markets (and subsequent fishing effort) for others. Place-based FEPs will provide fishery managers with comprehensive information on all fishery impacts within a given area and allow improved decision making with less unintended consequences due to poorly understood connections. By operating within an ecosystem context, fishery managers will also be better positioned to anticipate likely physical and biological responses to changing environmental conditions and to determine appropriate management actions to forestall adverse impacts to marine ecosystems, rather than reacting to changes after they occur. In addition, greater stability and predictability is more likely when resources are considered together rather than as independent units.

The ecosystem approach under the preferred alternatives may improve the management of coastal resources at both Federal and local levels through changes in the structure of resource management plans and the process by which these plans are developed and implemented. Because the organizational structure for developing and implementing a FEP is broader than for an FMP and will incorporate more local community input, it is more likely to make good use of local knowledge and experience in management strategies and tactics. This will strengthen cooperation and voluntary compliance with management measures which is especially important in the Western Pacific Region where enforcement capabilities are often low.

The southern and western Pacific Ocean is dotted with thousands of islands governed by several nations. American Samoa, for example, is surrounded by the EEZs of five independent nations and the Pacific Remote Island Areas (Wake, Howland/Baker, Jarvis, Palmyra) are part of larger archipelagic island chains. Several targeted pelagic species are considered highly migratory and management of these resources are increasingly becoming international issues. As marine ecosystems are generally considered “open” systems and large scale changes can be observed within smaller units, international coordination as well as coordination between the Council and neighboring nations of island areas in the Western Pacific Region will be a necessary component of the successful implementation of an ecosystem approach to fisheries management.

Table 25: Summary of Impacts

	Environmental Resource Category				
Issue: Alternative	**Physical Environment**	**Target and Non-target Species**	**Protected Species**	**Management, Administration, Enforcement**	**Fisheries Participants and Communities**
Issue 1: FEP Boundaries (Regulatory Action)					
Alternative 1A- No action	No short-term impacts—existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term negative impacts may occur if full range of impacts (fishing and non-fishing) not considered.	Current short-term levels of impacts remain, stocks status and trends would continue to be managed using existing thresholds for "overfishing" and "overfished" conditions. Long-term negative impacts may occur if ecosystem variability (e.g. production, habitat, trophic relationships) not considered.	Current levels of negligible impacts would remain, however, long-term negative impacts may occur if ecosystem variability (e.g. production, habitat, trophic relationships) not considered.	No impact- current levels of staffing, budgets, public meetings would remain.	Current levels of short-term impacts would remain however long-term negative impacts may occur if ecosystem variability not considered resulting in depleted stocks or severely degraded habitats.

Alternative 1B- Archipelago FEP	Short-term impacts same as 1A. Long-term positive impacts may occur if full range of impacts considered under place-based FEPs.	Short-term impacts same as 1A. Long-term positive impacts may occur if ecosystem variability (e.g. production, habitat, trophic relationships) is considered. Long-term negative impacts may occur on pelagic target and non-targets stocks as management for them would remain may not consider ecosystem variability.	Short-term impacts same as 1A. Long-term impacts may occur if variability (e.g. production, habitat, trophic relationships) not considered.	Short-term impacts would be same as 1A. Middle to long-term negative impacts may occur as fishery scientists will be asked to continue to conduct current tasks (stock assessments) while also prioritizing ecosystem science. Current funding levels unlikely to cover ecosystem research priorities. Impacts to enforcement may be reduced with increased voluntary compliance within communities.	Short-term impacts same as 1A. Long-term positive impacts may result from increased fishery participant and community involvement in fishery management.
Alternative 1C (Preferred)- Archipelago FEP and Pelagic FEP	Short-term and Long-term same impacts as 1B.	Same short-term and long-term impacts as 1B, excluding negative impacts observed in 1B on pelagic target and non-targets as they would be managed under an FEP which would consider ecosystem variability.	Short-term and long-term same impacts as 1B.	Same short-term and long-term impacts as 1B. Implementation of Pacific Pelagic FEP not anticipated to have negative impacts above what is anticipated for 1B.	Short-term and long-term impacts same as 1B.

Alternative 1D- FEPs for each biogeographic zone	Same short-term and long-term impacts as 1B and 1C, however, negative impacts may result as management of smaller ecosystems may not fully consider the connectivity between smaller ecosystem units with larger archipelagic or pelagic ecosystems.	Same short-term and long-term impacts as 1B and 1C, however, negative impacts may result as management of smaller ecosystems may not fully consider the connectivity between smaller ecosystem units with larger archipelagic or pelagic ecosystems.	Same short-term and long-term impacts as 1B and 1C.	Significant negative impacts may occur as 16 FEPs would be established, each with its own regulations. Ecosystem research for each FEP would have to be prioritized which would likely have a negative effects in light of current funding levels. Enforcement agencies would be impacted in order to keep track of multiple sets of regulations.	Same short-term and long-term impacts as 1B and 1C
Issue 2: List of MUS (Regulatory Action)	**Physical Environment**	**Target and Non-target Species**	**Protected Species**	**Management, Administration, Enforcement**	**Fisheries Participants and Communities**
Alternative 2A- No action- existing MUS lists	No short-term or long term impacts—existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained.	Short-term and long-term impacts would remain at current levels. MUS species signify what species management can regulate harvest as well as data collection. Changes to MUS lists would continue to occur under adaptive management.	Short-term negligible impacts would remain. Expanding MUS lists to include species important to protected species may have positive impacts as monitoring and management of those MUS species would be enhanced.	Short-term and long-term impacts are similar in that current MUS lists include species which do not occur uniformly within the WPR. Although impacts are not significant, Regional MUS lists often confuse scientists, managers, enforcement agents, as well as the public.	Short-term and long-term impacts would remain involving confusion amongst fishery participants and community members when deciphering which MUS species and associated regulations apply to them.

Alternative 2B (Preferred)- FEP MUS believed/potentially harvested in FEP boundary	No short-term or long term impacts—existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained	Short-term and long-term impacts would be same as 2A. The removal of a species from a MUS list does not add or subtract from the management of that species. Changes to FEP MUS lists would continue to occur under adaptive management.	Impacts same as 2A.	Short-term and long-term positive impacts would result as it would reduce confusion amongst scientists, managers, and enforcement personnel as well as eliminate issues in how to address non-present MUS species in annual evaluations required under the MSA.	Short-term and long-term positive impacts would result as confusion is reduced due to removing species not present within the FEP management area.
Alternative 2C- Existing MUS plus incidental caught and assc. species known to occur with FEP boundary	Impacts same as 2A and 2B.	Short-term impacts would be same as 2A and 2B. Long-term positive impacts may occur by adding incd. caught and assc. species to MUS lists , however, since they are generally not caught in significant levels appropriate management measures is uncertain at this time.	Impacts same as 2A and 2B.	Short-term and long-term negative impacts would likely occur because inclusion of such species would entail monitoring and stock evaluation. The number of additional species would vary by location, but could number be several thousand.	Impacts same as 2B.
Alternative 2D- Existing MUS plus incidental caught and assc. species believed to occur with FEP boundary	Impacts same as 2A and 2B.	Impacts same as 2B.	Impacts same as 2A and 2B.	Impacts same as 2B, however a bit more negative if difference in “believed” or “known” to be present added a sign. Amount of more species..	Impacts same as 2B.

Issue 3: Council Advisory Structure (Regulatory Action)	**Physical Environment**	**Target and Non-target Species**	**Protected Species**	**Management, Administration, Enforcement**	**Fisheries Participants and Communities**
Alternative 3A- No action	No short-term impacts anticipated as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term negative impacts may occur if full range of impacts (fishing and non-fishing) not considered by Council advisory bodies.	Short-term and long-term impacts anticipated to remain at current levels as stock status and trends would continue to be managed using existing thresholds for "overfishing" and "overfished".	Current levels of negligible short-term and long-term impacts would remain.	No impacts anticipated if place-based FEPs not implemented. If FEPs are implemented, a mis-alignment between species-based Plan Teams and Standing Committees and place-based FEPs may result in negative impacts from fragmented stock assessment, annual reports, and management recommendations.	No impact as existing regulations would be maintained. However, if FEPs are implemented, a mis-alignment of species-based Plan Teams and place-based FEPs could result in confusion for those wising to participate in fishery management process.

Alternative 3B- Add single FEP Plan Team (PT) to existing advisory structure	No short-term impact as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term positive impact may occur if single FEP Plan Team able to improve management by understanding full range (fishing and non-fishing) effects on physical env, however not clear if single FEP Plant Team could achieve this result.	No short-term impact as stocks status would continue to be managed using existing thresholds for "overfishing" and "overfished". Long-term positive impact may occur if single FEP Plan Team able to improve management by understanding full range (fishing and non-fishing) effects on target and non-target species, however not clear if single FEP Plant Team could achieve this result.	No short-term negative impacts expected as current negligible impacts would remain. Long-term positive impact may occur if single FEP Plan Team able to improve management by understanding full range (fishing and non-fishing) on protected species, however not clear if single FEP Plant Team could achieve this result.	Low to moderate negative impacts anticipated from establishing single FEP Plan Team as not expected to result in much additional costs or coordination time.	No direct impacts anticipated, however a single FEP Plan Team overlaid on species-based Plan Teams could lead to confusion by creating unclear lines of communication and management authority.

Alternative 3C- Replace current FMP PTs, Advisory Panels (APs), and Standing Committees (SCs). with FEP PTs, APs, and SCs	No short-term impacts as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term positive impacts may result from place-based advisory structure aligned with place-based FEPs leading to improved understanding of full range of impacts on physical environment within FEP area.	No short term impacts anticipated as stocks status would continue to be managed using existing thresholds for "overfishing" and "overfished". Long-term positive impacts may result from consideration of full range of impacts within FEP area.	No short-term negative impacts expected as current negligible effects would remain. Long-term positive impacts may result from consideration of full range of impacts within FEP area.	Significant negative impacts would occur as it would be difficult to find sufficient numbers of members to participate in each of the FEP Plan Teams and would likely require recruitment from outside (FEP area) areas. If limited number of local experts available, members would likely have to serve on multiple FEP Plan Teams, which significantly increase responsibilities and time commitments. No impacts to enforcement agencies are anticipated.	No short-term impacts anticipated. Long-term positive impacts may result from place-based FEPs aligned with place-based advisory structure may enhance opportunities for participation in the management process, in addition to increased sense of shared ownership and management.
Alternative 3D (Preferred)- Replace FMP PTs, APs and SCs with FEP APs, FEP SCs and two FEP PTs (demersal and pelagic)	Impacts same as 3C.	Impacts same as 3C.	Impacts same as 3C.	Short-term impacts anticipated to be minimal, but would entail some additional costs and planning. Long-term positive impacts anticipated as costs may be reduced, as well staff time for coordinating and staffing for only two Plan Teams (Demersal and Pelagic).	No short-term impacts anticipated. Long-term positive impacts may result from place-based FEPs aligned with place-based advisory structure may enhance opportunities for participation in the management process, in addition to increased sense of shared ownership and management.

Issue 4: Regional Coordination (Non-Regulatory Action)	**Physical Environment**	**Target and Non-target Species**	**Protected Species**	**Management, Administration, Enforcement**	**Fisheries Participants and Communities**
Alternative 4A- No action- do not establish or support Ocean Council type groups	No short-term impacts anticipated as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term negative impacts may occur if Ocean Council type groups are not establish (outside of Hawaii) and the full range of impacts (fishing and non-fishing) are not considered.	No short-term impact as stocks status would continue to be managed using existing thresholds for "overfishing" and "overfished". Long-term negative impacts may occur if Ocean Council type groups are not establish (outside of Hawaii) and the full range of impacts (fishing and non-fishing) are not considered.	Current levels of negligible short-term and long-term impacts would remain.	No impacts anticipated.	No direct impacts anticipated, however, over time failure to consider full range of impacts on marine ecosystems could negative impact fishery participants and communities.

Alternative 4B (Preferred)- Establish Regional Ecosystem Council Committees	No short-term impacts anticipated as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term positive impacts may occur as Committees would likely enhance Council's ability to coordinate with member agencies on efforts to address full range of impacts to physical environment.	No short term impacts anticipated. Long-term positive impacts may occur as Committees would likely enhance Council's ability to coordinate with member agencies on efforts to address full range of impacts on target and non-target species.	Negligible short-term impacts would remain. Long-term positive impacts may occur as Committees would likely enhance Council's ability to coordinate with member agencies on efforts to address full range of impacts protected species.	Significant negative impacts are anticipated as the creation of Committees would entail additional administrative costs (travel, staffing). Positive impacts would be Council's ability to coordinate with member agencies on efforts to address broader ecosystem issues involved with fisheries management in the WPR.	No direct impacts anticipated, however the establishment of Committees would provide additional venues for participation in the management process and may attract new participants with additional expertise or local perspectives.
Alternative 4C- Participate in and support existing Ocean Council type groups	Impacts same as 4B, if Ocean Council type groups established throughout WPR. As Hawaii is currently only area within WPR with an Ocean Council, other non-Hawaii areas would not benefit from the long-term positive impacts of improved coordination if not groups not established.	Impacts same as 4B, if Ocean Council type groups established throughout WPR. As Hawaii is currently only area within WPR with an Ocean Council, other non-Hawaii areas would not benefit from the long-term positive impacts of improved coordination if not groups not established.	Impacts same as 4B, if Ocean Council type groups established throughout WPR. As Hawaii is currently only area within WPR with an Ocean Council, other non-Hawaii areas would not benefit from the long-term positive impacts of improved coordination if not groups not established.	Short-term Impacts are uncertain or anticipated to be low to moderately negative as it would entail additional costs for travel and staff time to prepare documents. Long-term positive impacts may result from increased coordination.	No direct impacts anticipated, however the establishment of Committees would provide additional venues for participation in the management process and may attract new participants with additional expertise or local perspectives
Alternative 4D- Establish independent Regional Ecosystem Councils	Impacts would be same as 4B.	Impacts same as 4B.	Impacts same as 4B.	Impacts same as 4C.	Impacts same as 4C.

Issue 5: International Coordination (Non-Regulatory Action)	**Physical Environment**	**Target and Non-target Species**	**Protected Species**	**Management, Administration, Enforcement**	**Fisheries Participants and Communities**
Alternative 5A- No action	No impacts as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained	No negative impacts are anticipated for Council's continued level participation. Positive impacts are anticipated as continued level involves coordination on stock assessments, data and information collection, and enforcement.	No negative impacts are anticipated. Positive impacts are anticipated as continued level involves participating in workshops and seminars aimed at reducing interactions between protected species and fisheries as well as cooperative research and conservation efforts.	Council's current level of participation involves travel costs (for participants and staff) and staff time to help plan meetings and write papers/prepare presentations. The negative impact associated with the above costs are low as the resources and staff time dedicated are a fraction of what is dedicated for domestic fishery issues.	Positive indirect impacts are anticipated to continue as Council is dedicated to exporting effective gear methods that reduce interactions with protected species to other fishing nations. Council's participation in international meetings also allows Council to keep the public aware of international fisheries management issues which may affect them locally.

Alternative 5B (Preferred) Increase participation in international management fora and initiate meetings/workshops with neighboring nations	No short-term impacts are anticipated as existing FMP regulations prohibit destructive fishing gear. Monitoring of impacts on EFH and HAPC would be maintained. Long-term positive impacts are anticipated if Council is successful in persuading (through information sharing) other fishing nations the importance in prohibiting destructive gear types.	No short-term impacts anticipated. Long-term positive impacts anticipated as a result of information exchange regarding stock management.	No short-term negative impacts anticipated and short-term positive impacts would be continued as describe in 5A. Increased long-term positive impacts are anticipated from increased information exchange and coordination on conservation efforts with neighboring nations.	Negative impacts are anticipated as a result of staff time dedicated to coordinating meetings, writing reports/presentations, as well as travel and meeting costs.	No direct impacts anticipated, however increased participation anticipated to facilitate greater information exchange which would be useful for fishery participants and communities.
Alternative 5C- Do not participate in international management fora or initiate meetings/workshops with neighboring nations	No impact to physical environment in WPR.	Negative short-term and long-term impacts are anticipated as ending Council participation would reduce information and management recommendations available to international management groups, which could affect the accuracy of target and non-target stock assessments.	Negative short-term and long-term impacts anticipated as Council's efforts to export effective gear methods would cease as well as end other effective conservation efforts (e.g. sea turtle nesting beach protection).	Positive impacts are anticipated as associated costs and staff time would be focused on domestic fishery issues, however negative impacts may occur as the Council and staff would not be informed of international management issues associated with stock assessments or conservation efforts.	No direct impacts anticipated, however negative indirect impacts may occur as fishery participants and community members would no longer be informed through participation in the Council process of international fisheries management issues or conservation efforts.